

FIG.1

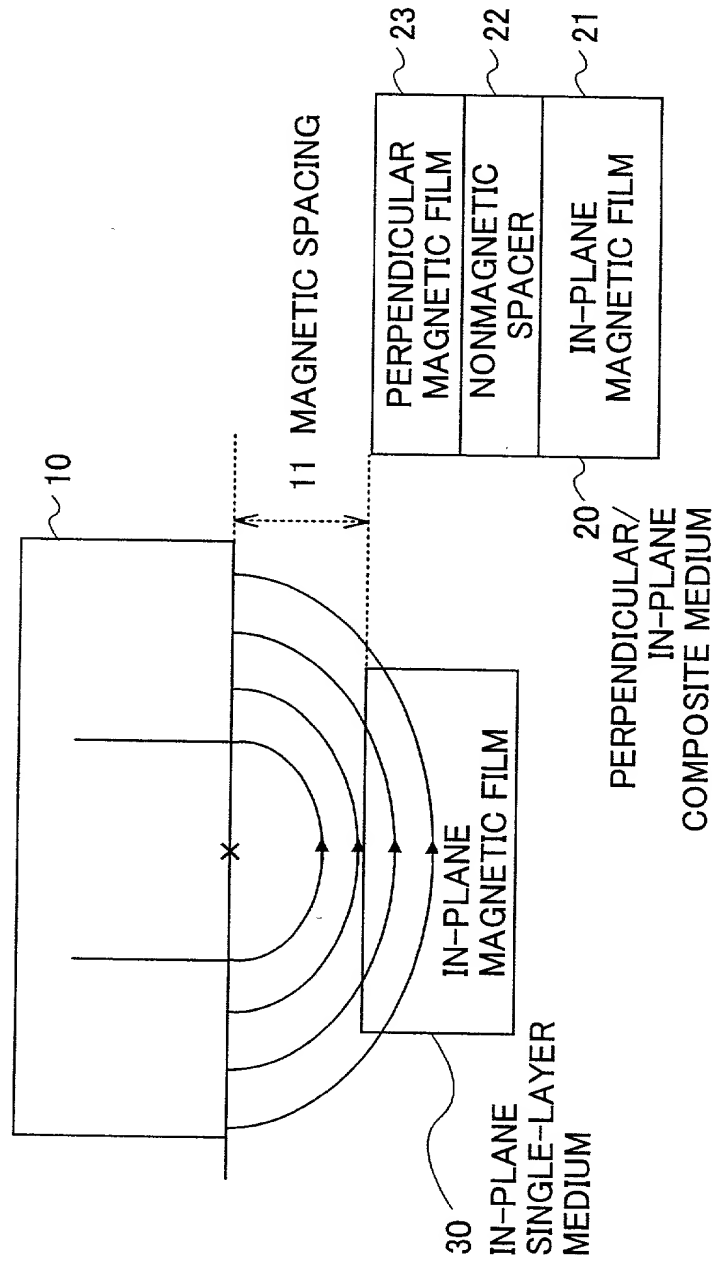


FIG.2

	THICKNESS (nm)	PARTICLE DIAMETER (nm)	EXCHANGE INTERACTION PARAMETER $h_e$
IN-PLANE SINGLE-LAYER MEDIUM	10	5	0.05
PERPENDICULAR/ IN-PLANE COMPOSITE MEDIUM	$\frac{1}{1/10}$ *		

\* IN THE ORDER OF PERPENDICULAR MAGNETIC FILM,  
 NONMAGNETIC SPACER, AND IN-PLANE MAGNETIC FILM.

FIG.3

	PERPENDICULAR MAGNETIC FILM			IN-PLANE MAGNETIC FILM			V (%)	TRANSITION BREADTH $\pi a$ (%)
	Ms (emu/cc)	Hk (kOe)	tBr (Gum)	Ms (emu/cc)	Hk (kOe)	tBr (Gum)		
IN-PLANE SINGLE-LAYER MEDIUM	—	—	—	500	4	47.1	0%	0%
PERPENDICULAR/ IN-PLANE COMPOSITE MEDIUM	250	8	3.1				-1.6%	-0.4%
	500	8	6.3				-16.0%	7.9%

FIG.4

	THICKNESS (nm)	PARTICLE DIAMETER (nm)	EXCHANGE INTERACTION PARAMETER $h_e$
IN-PLANE SINGLE-LAYER MEDIUM	6	5	0.05
PERPENDICULAR/ IN-PLANE COMPOSITE MEDIUM	1/1/6*		

\* IN THE ORDER OF PERPENDICULAR MAGNETIC FILM,  
 NONMAGNETIC SPACER, AND IN-PLANE MAGNETIC FILM.

FIG.5

		PERPENDICULAR MAGNETIC FILM			IN-PLANE MAGNETIC FILM			Output@ 460kfcj	S/N@460kfcj	
		Ms (emu/cc)	Hk (kOe)	tBr (Gum)	Ms (emu/cc)	Hk (kOe)	tBr (Gum)		S/Nm (dB)	DIFFERENTIAL (dB)
IN-PLANE SINGLE-LAYER MEDIUM	①							0.0%	13.9	0.0
	②	600	22	7.5				-1.0%	14.8	+0.9
PERPENDICULAR/ IN-PLANE COMPOSITE MEDIUM	③	200	18	2.5	600	12.6	56.5	-6.3%	15.1	+1.2
	④	200	15	2.5				-3.6%	14.2	+0.3
	⑤	200	10	2.5				2.5%	14.2	+0.3

FIG. 6A

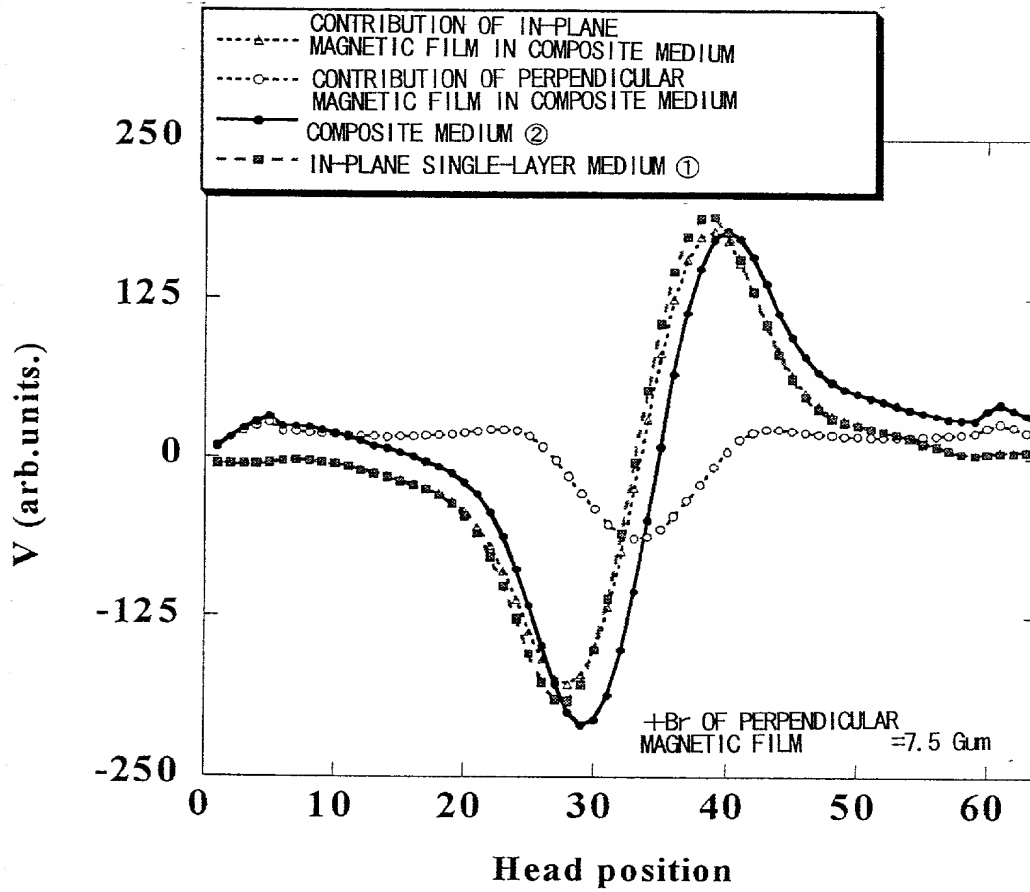


FIG. 6B

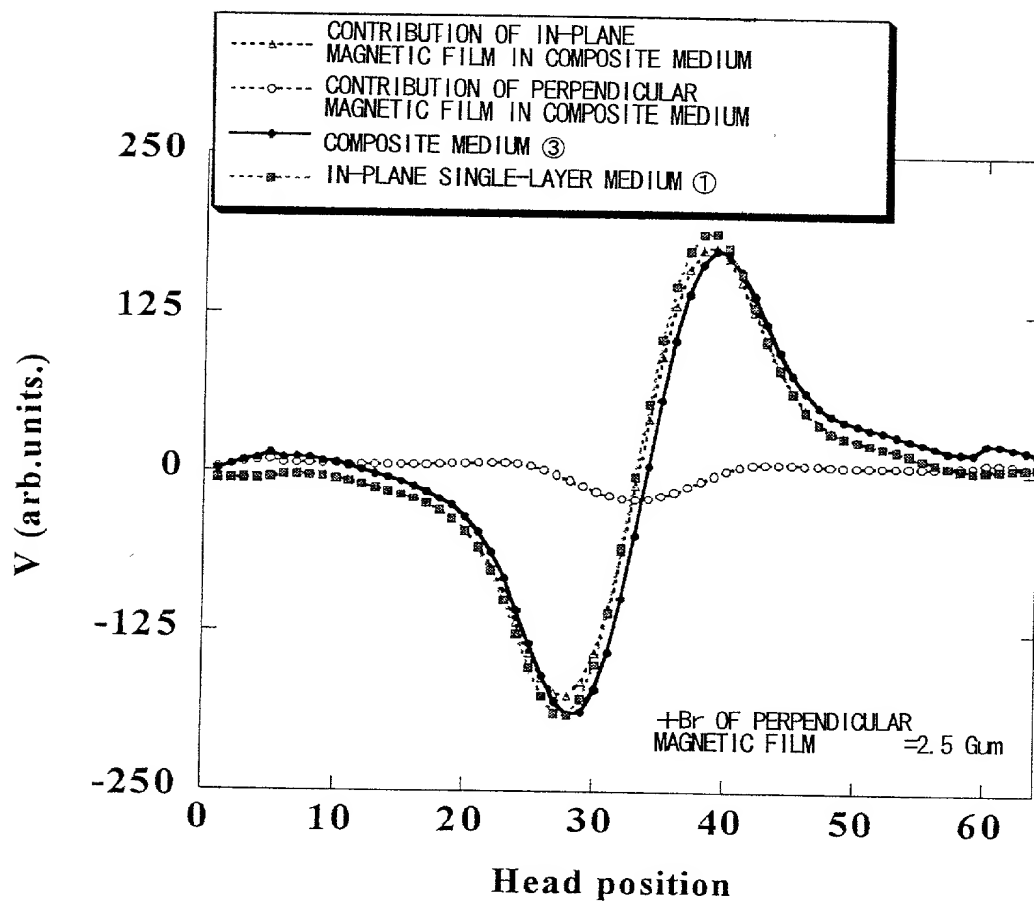


FIG.7

RECORDING HEAD MAGNETIC FIELD AT THE CENTER OF THE MEDIUM (kOe)	Ms OF IN-PLANE MAGNETIC FILM (emu/cc)	Hk OF IN-PLANE MAGNETIC FILM (kOe)	Ms OF PERPENDICULAR MAGNETIC FILM (emu/cc)	Hk OF PERPENDICULAR MAGNETIC FILM (kOe)
7.1	600	12.6	200	17.5
7.5	600	12.6	200	18.0
8.5	600	12.6	200	18.0



FIG.8A

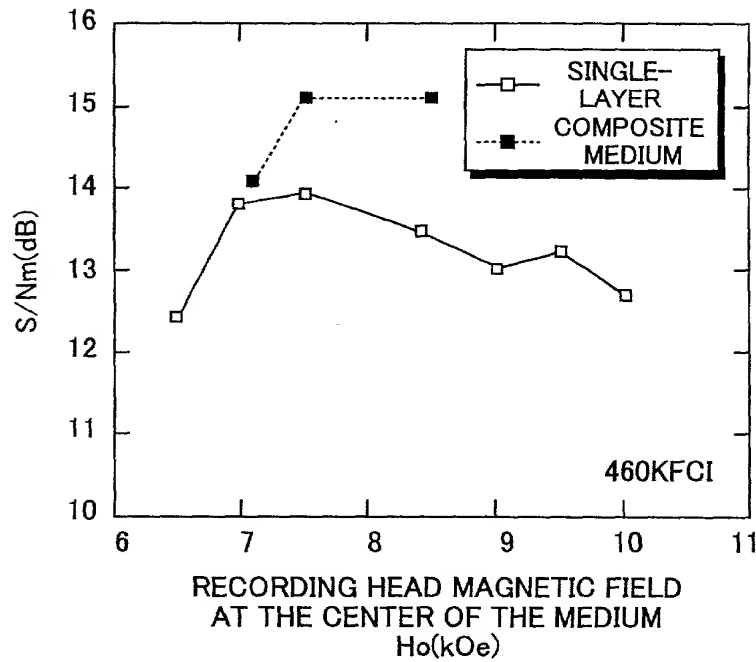


FIG.8B

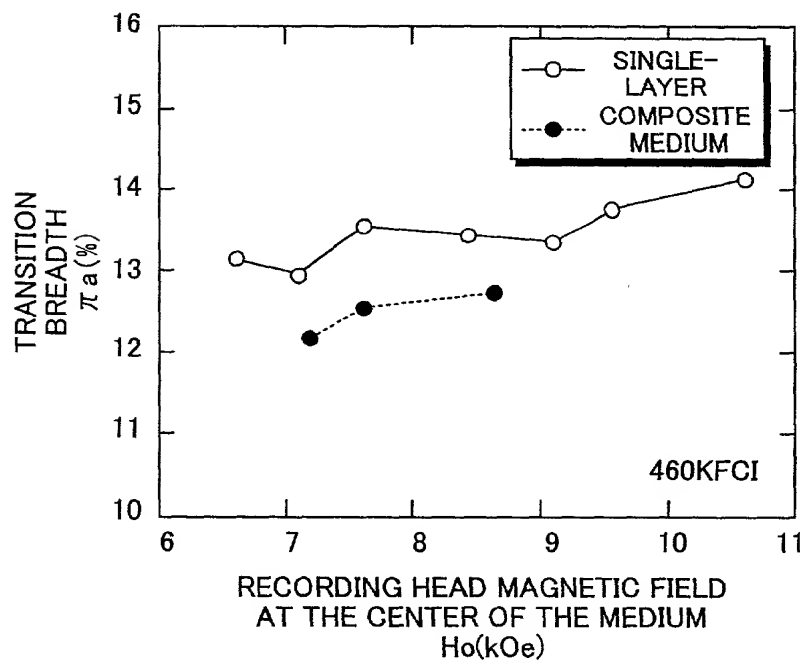


FIG. 9

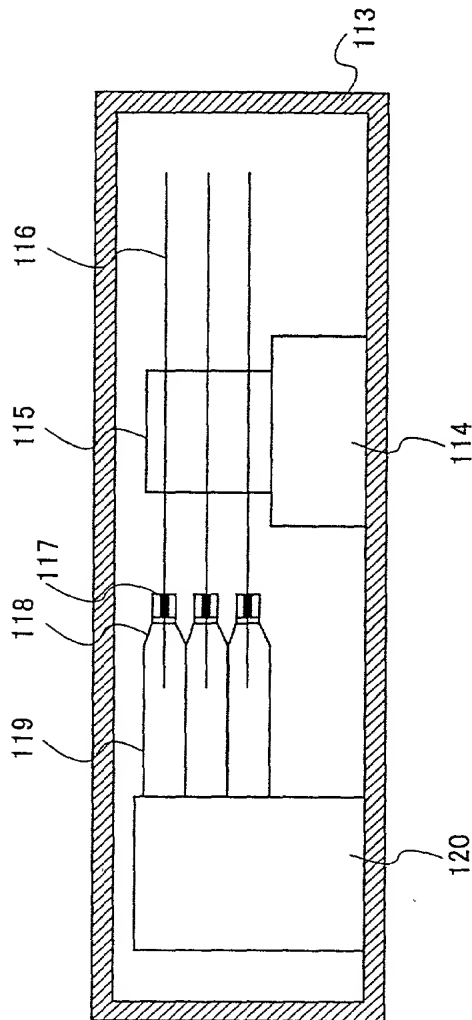


FIG. 10

